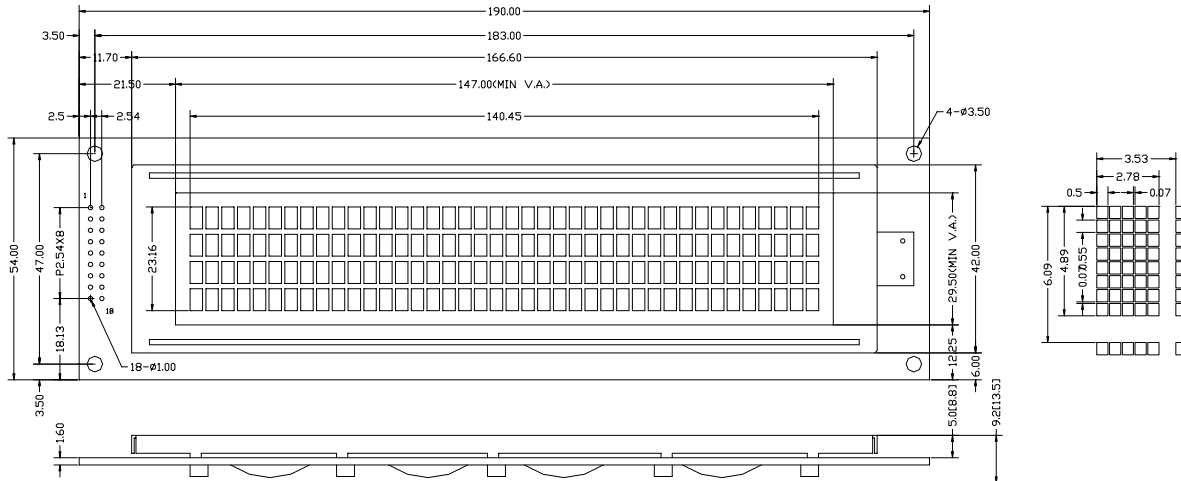


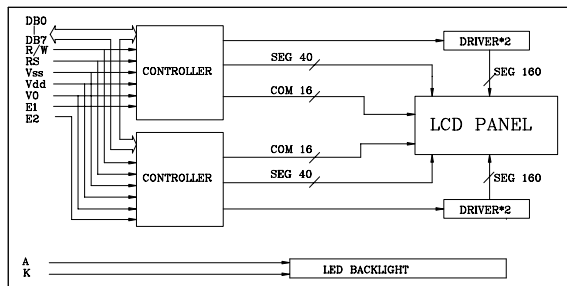


### EXTERNAL DIMENSIONS:

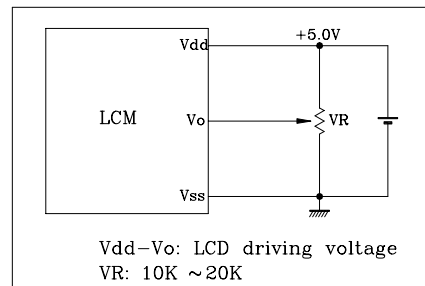
[ ] For LED Backlight



### BLOCK DIAGRAM:



### POWER SUPPLY:



### MECHANICAL SPECIFICATIONS

ITEM	SPECIFICATION	UNIT
Module Size (WxHxT)	190.0x54.0x9.2[13.5]	mm
Viewing Area (WxH)	147.0x29.5	mm
Character Font (WxH)	5x7+cursor	dots
Character Size (WxH)	2.78x4.89	mm
Character Pitch (WxH)	3.53x6.09	mm
Dot Size (WxH)	0.5x0.55	mm
Character Type	Eng/Jap, Eng/Eur, Eng/Rus	
LCD MODE	STN(Y/G,Gray,Blue),FSTN	

### PIN ASSIGNMENT

PIN	SYMBOL	FUNCTION
1~8	DB7~DB0	Data bus Line
9	E1	Enable Signal 1
10	R/W	Read/Write
11	RS	Data/Instruction Register Select
12	Vo	Contrast Adjust
13	Vss	Power Supply (0V)
14	Vdd	Power Supply (+5V)
15	E2	Enable Signal 2
16	NC	No Connect
17	K	Power Supply for LED BL (-)
18	A	Power Supply for LED BL (+)

### ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN.	MAX.	UNIT
Power Supply (logic)	Vdd-Vss	-0.3	7.0	V
Power Supply (LCD)	Vdd-Vo	3.0	13.0	V
Input Voltage	Vi	-0.3	Vdd+0.3	V
Operating Temperature	Topr	0	50	°C
Storage Temperature	Tstg	-20	70	°C

### ELECTRICAL CHARACTERISTICS (Ta=25°C)

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Power Supply (logic)	Vdd	-	4.5	5.0	5.5	V
Supply Current (logic)	Idd	VDD=5.0V	0	-	5.0	mA
Driving Voltage (LCD)	Vdd-Vo		4.4	4.7	5.0	V
Driving Current (LCD)	Ilcd		0	1.6	-	mA
Input Voltage "H"	Vih		2.2	-	Vdd	V
Input Voltage "L"	Vil		-0.3	-	0.6	V
Output Voltage "H"	Voh	Ioh=-0.205mA	2.4	-	-	V
Output Voltage "L"	Vol	Iol=1.2mA	-	-	0.4	V

### LED BACKLIGHT SPECIFICATIONS

PARAMETER	TYP.	ITEM	TYP.
Forward Voltage	4.2V	Power Dissipation	2016mW
Forward Current	480mA	Emission Wavelength	570nm